



# ***Beyond Web: Agent based Publishing***

**Wide Area Information  
Servers, Inc**

***Brewster Kahle, President  
DAGS, June 1995***



# **Internet Publishing Today: Browsing**

- **World Wide Web**
- **Isolated Services**
- **Wired---CMP---Time Inc---Britannica**



# **Customer Demands**

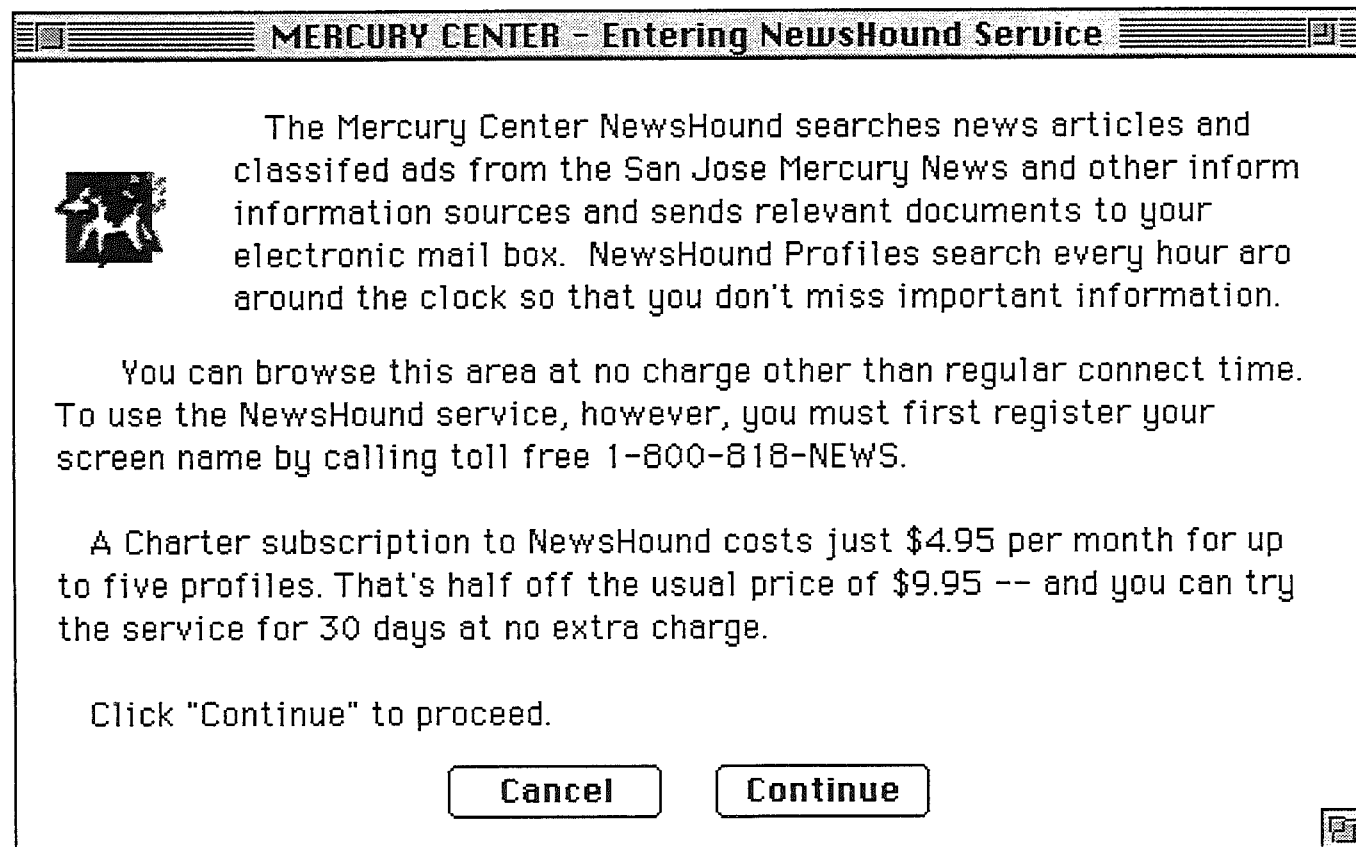
- **What I want: Personalization**
- **How I want it: Packaged Delivery**
- **Single System: Aggregation**
- **Single Price: Understandable costs**



# **Agent Technology “Offers” it All:**

- **Automated Queries**
- **Vertical Market Packaging**
- **Aggregation (Starting to Appear)**
- **Easier Profiling (In research systems)**
- **Understandable Pricing (Uh, Someday)**

# NewsHound: Start



# NewsHound Profile

**MERCURY CENTER - Create NewsHound Profile**



Use this form to create, delete or change a NewsHound profile.

Enter "x" to: ☒ Create ☐ Delete ☐ Change

Profile title

Search: ☒ Articles ☐ Ads ☐ Both

Type relevant words or phrases, separated by commas, in each box:

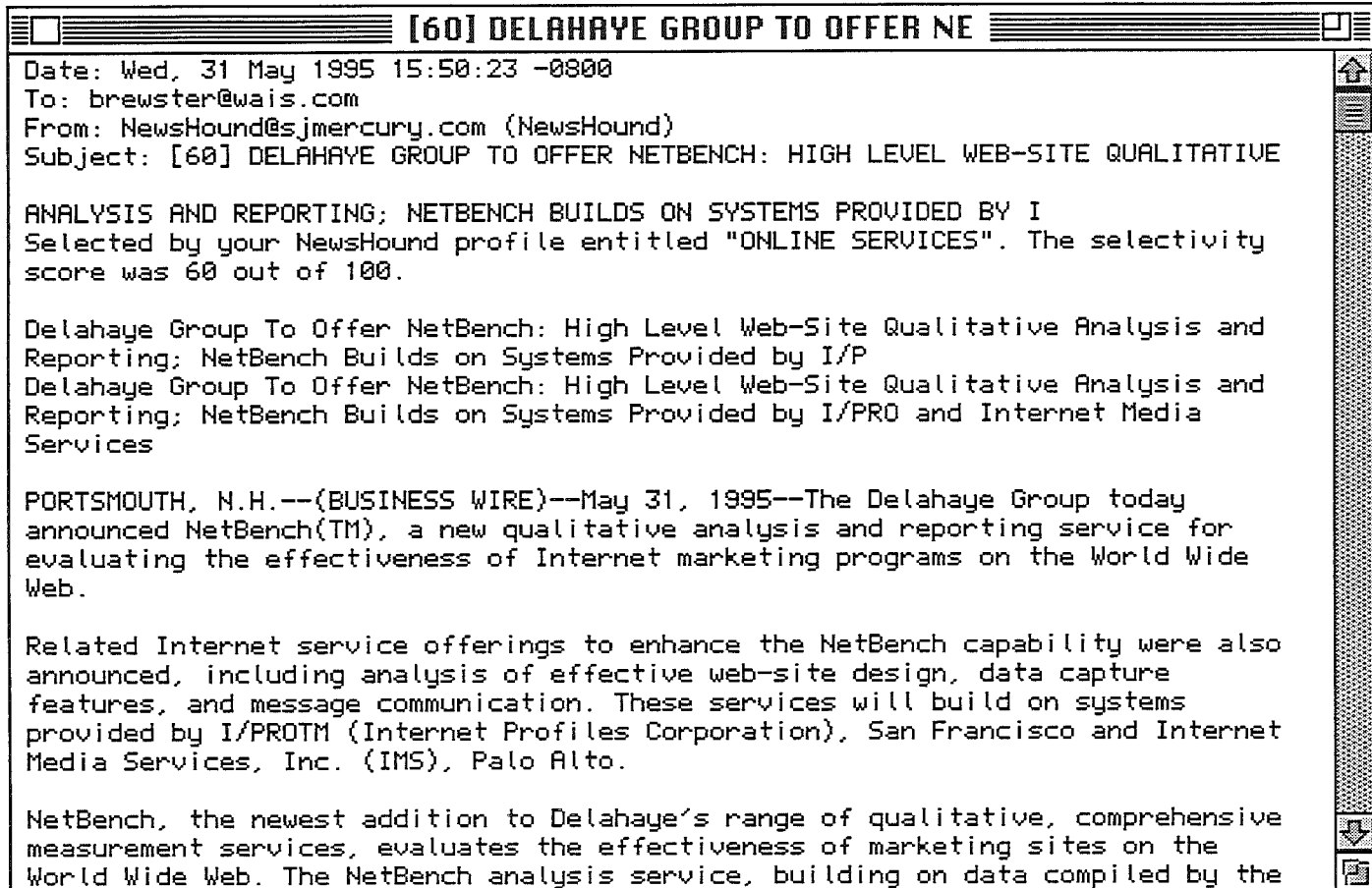
Possible terms   

Required terms

Terms to exclude

Selectivity. Leave blank for default or enter 1 to 100. See Help.

# NewsHound Email Article



# Email Delivery

Re- hpcwire

H P C w i r e

The E-zine for High Performance Computing and Commercial Processing  
\*\*\* November 23, 1994: Vol. 3, No. 46 Circulation: 18,781 \*\*\*  
This Week's Table of Contents Represents 201 Pages of Text  
\*\*\*\*\*  
Article Retrieval instructions at end of this file <more@hpcwire.tgc.com>.  
----- \* -----

The Portland Group (PGI) is now shipping its High Performance Fortran (HPF) compiler. For more information, see the PGI home page at  
<<http://www.pgroup.com>> or retrieve the following HPCwire articles:

4815) Special PGI Program Promotes Parallel Computing in Education  
4817) First Production Release of pghpf Compiler from PGI  
4822) PGI Announces HPF Compilers on Silicon Graphics Systems  
932) The Portland Group Backgrounder and Fact Sheet

IN THIS ISSUE

1520) Two Faces of New Congress Will Weigh Future of HPCC and NII  
4879) 1994 Gordon Bell Award Winners Announced at Supercomputing'94  
1521) FEATURE: Making the NII Real, SC'94 Keynote by Edward R. McCracken

For a free 6-week trial subscription, email: <[trial@hpcwire.tgc.com](mailto:trial@hpcwire.tgc.com)>

\*\*\*\*\*  
S P E C I A L   S U P E R C O M P U T I N G ' 9 4   S U P P L E M E N T

950) We missed you at SC'94 and you still have a second chance!  
To access the LIVEwire daily coverage issues of SC'94, retrieve <950>.

IN THE NEWS =====

GORDON BELL AWARD WINNERS  
\*\*\*\*\*

Lines



## A black and white photograph of a landscape. In the foreground, there is a body of water, possibly a lake or a wide river, with a dark, silty shoreline. The water reflects the light, creating a shimmering effect. In the background, a steep, forested hill rises, its slopes covered in dense trees. The overall scene is quiet and somewhat somber due to the monochrome palette.

# Individual Email Alerts

First! 02-23-95 (9 stories) <0B

Date: Thu, 23 Feb 1995 04:02:29 -0500  
From: first@woolf.individual.com  
To: Brewster@wais.com  
Subject: First! 02-23-95 (9 stories) <0BUM97PW> [Indiv4]

Thursday, February 23, 1995

\*\*\*\*\*  
First! First! First! First! First! First! First! First! First! (tm)  
\*\*\*\*\*  
-- Specialized Knowledge for the Enterprise (C) 1995 by Individual, Inc.

PROFILE TITLE: Industry Awareness Rpt./Info. Svc. Overview  
CUSTOMIZED BY: INDIVIDUAL, Inc.  
HQ

=====

12,430 Stories Received Today; 9 Relevant To Your Profile:

=====

1. SEYBOLD SEMINARS BOSTON 95 EXPOSITION HIGHLIGHTS REAL-WORLD EXAMPLES OF PUBLISHING ACHIEVEMENTS
2. TRIBUNE FORMS TRIBUNE VENTURES UNIT
3. CYBERSPACE/ WHERE THE WOMEN AREN'T! COMPUTERS & TECHNOLOGY
4. MCGRAW-HILL ESTABLISHES NEW INFORMATION SERVICES GROUP FOCUSING ON CORE INFORMATION PRODUCTS AND NEW MEDIA -- NEWLY INTEGRATED CORPORATE DEVELOPMENT DEPARTMENT ALSO ANNOUNCED
5. SPECTRUM INFORMATION TECHNOLOGIES FILES 10-Q FOR THIRD QUARTER
6. CAERE SHIPS PAGEKEEPER 2.0 FOR WINDOWS
7. STANFORD UNIVERSITY RESEARCHERS DESIGNING ADVANCED INTERNET TOOLS
8. AMERICA ONLINE INC DEL UP 1.19 TO 67.69 ON VOLUME OF 472,700 SHARES

# Individual Inc Setup

## HEADSUP TOPIC SELECTION FORM

NAME YOUR TERM TO REMEMBER

Please complete and fax a copy of this form to  
1-800-417-1000 to begin receiving HeadsUp.

☐ **YES**, please complete my personal profile based on the information below and send me HeadsUp cards bi-weekly. PLEASE let us know the mailing address after you receive my request. I will order as many different articles as I need, which are also free during my trial period. To better tell the range of headsUp, please select at least five topics/areas.

Priority Topic Codes:

1	
2	

Other Areas of Interest (for our experts code is more than twenty)

1		1	
2		2	
3		3	
4		4	
5		5	
6		6	

Name \_\_\_\_\_

Title \_\_\_\_\_

Department \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Headline \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_

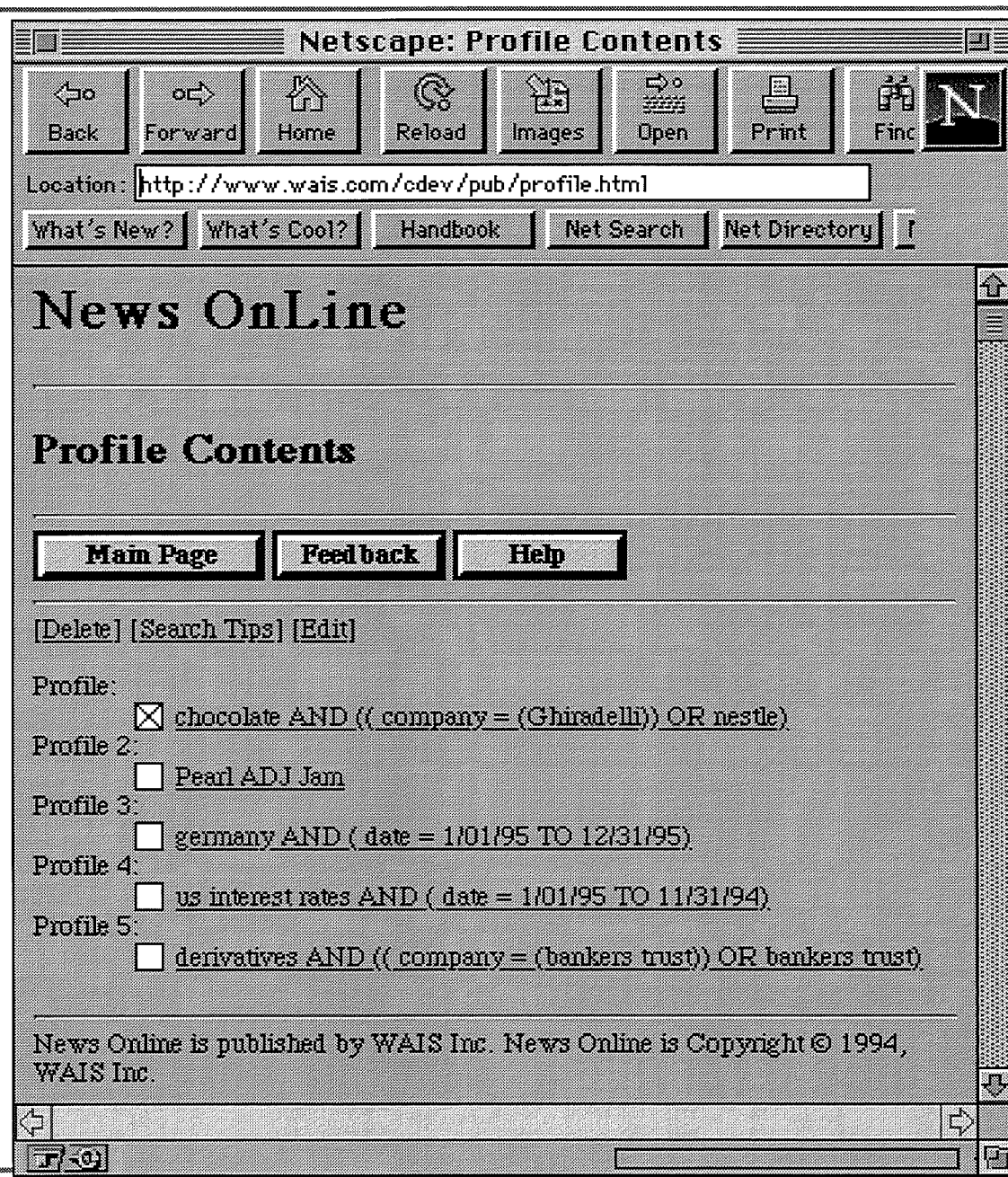
Headline \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

# WAIS Email Alert Setup





# Ensemble Digital Newspaper

Investor's Business Daily - [Inside Today - 04-25-95]

File Edit Newspaper View Window Help

## Investor's Business Daily

*"The Newspaper For Important Decision Makers"*

Tuesday, April 25, 1995

### INSIDE *Today*



Front Page



Executive Update



The New America



The Economy



The Markets

Inside The Market

NASDAQ, Amex Markets

Making Money In Mutuals



Stocks In The News

NYSE Stocks

NASDAQ Stocks

Amex Stocks



Volume Tables

NYSE Stocks

NASDAQ Stocks

Amex Stocks

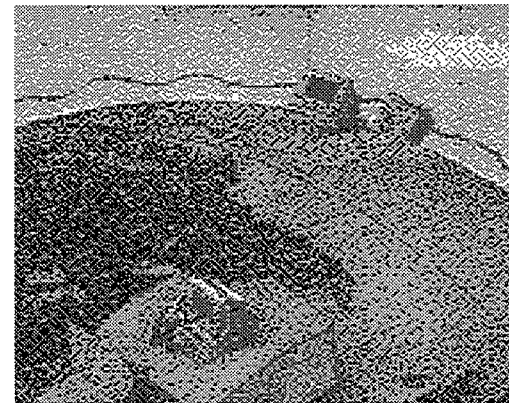


Personal Index

Today's Headlines

Weekend Review

Investor's Business Daily



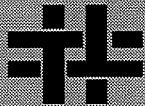
Visit the Hewlett Packard  
Web Site!

Show Me More

Advertiser Index






Section ▶

# WALSagent Personal Newspaper



# WALSagent

From WALS Inc. Tuesday, May 30, 1995

 <b>Online Publishing</b> Electronic Publishing Media - Publishing Interactive/Online Services Internet	 <b>Wall Street Journal</b> Front Page Market Place Front Page Technology Editorial Stories	<b>Internet</b> <b>20 PENNSYLVANIA LIBRARIES WILL GIVE INTERNET ACCESS TO PUBLIC</b> <b>COMPUTERWORLD LAUNCHES CENTER FOR PROFESSIONAL DEVELOPMENT: HOME PAGE ON THE WORLD WIDE WEB; On-Line Career Resource for Computer Professionals</b> <b>IBM ThinkPad Proven products now featured on the Internet at The Road Warrior Outpost</b> <b>Labor Unions Off To Slow Start In Cyberspace</b> <b>NOVELL BRINGS THE INTERNET RIGHT TO THE DESKTOP</b> <b>PR NEWSWIRE UNVEILS SITE ON THE WORLD WIDE WEB</b> <b>PREMIER INTERNET BOOK MARKETING FIRMS TO ANNOUNCE UNPRECEDENTED STRATEGIC ALLIANCE AT ABA CONVENTION</b>
 <b>Current Events</b> Congress Supreme Court Federal Trade Commission Federal Communications	 <b>Personal Index</b>  <b>WALS® Search</b> <b>About WALS</b>	

# WAlSagent Setup

Sample Personal Paper • Setup	
<b>Newspaper Name :</b> <input type="text" value="Sample Personal Paper"/>	<b>Newspaper Setup</b>
<b>Categories</b> <div><div>Companies</div><div>Industries</div><div>Subjects</div><div>Regions</div><div>Market</div><div>Government</div><div>WSJ Codes</div><div>Products</div><div>Statistics Codes</div></div>	<div><b>Possible Selections</b><div>Abbott Laboratories</div><div>Acclaim Entertainment</div><div>Adobe Systems</div><div>Advanced Micro Devices</div><div>Aetna Life &amp; Casualty</div><div>Ahmanson (HF) &amp; Co.</div><div>Air Products &amp; Chemicals Inc.</div><div>AirTouch Communications</div><div>Alberto-Culver</div><div>Albertson's Inc.</div><div>Alcan Aluminum Ltd.</div><div>Alco Standard</div><div>Alexander &amp; Alexander</div><div>Allergan Inc.</div><div>Allied Signal</div></div>

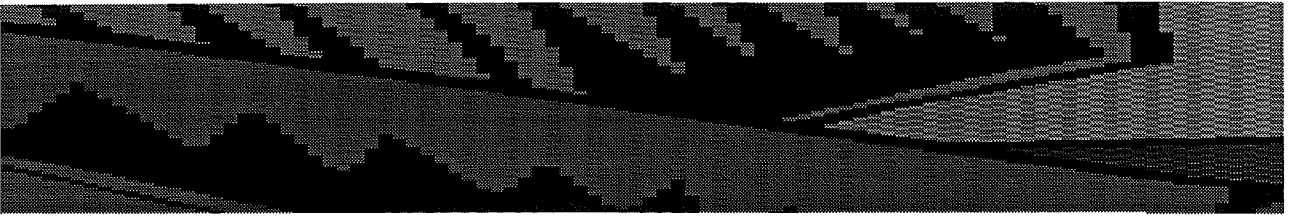
Select a company from the list at right or type the ticker symbol below.

**Newspaper Options**

**Fetch**

**Topic Options**

**Save**



Net: [Back](#) [Forward](#) [Home](#) [Reload](#) [Images](#) [Open](#) [Print](#) [Find](#) [Stop](#)

Net: [http://www.quote.com/bin/quote-form/wais/6k2ehp.C6sQ12/portfolio](#)

[What's New?](#) [What's Cool?](#) [Handbook](#) [Net Search](#) [Net Directory](#) [Newsgroups](#)

### Quick Quotes

Symbol	Time	Open	High	Low	Last	Change	Volume
<a href="#">AMER</a>	16:32	36 1/8	36 1/4	34 1/2	34 3/4	-1	461400
<a href="#">CSCO</a>	16:55	45 7/8	46	43 3/8	43 3/4	-2 1/8	3769200
<a href="#">MSFT</a>	17:10	88	88 3/8	82 5/8	83	-4 1/2	6225800
<a href="#">SUNW</a>	16:45	47	47 1/8	43 5/8	44 1/8	-3	2479800

Click on the symbol for [QuoteCom](#) Links to view more data.

### Fundamentals

Name	Earn/Shr	P/E	Div/Shr	52-wk Price Range
<a href="#">AMERICA ONLINE INC DEL</a>	-1.18	95.0	N/A	13.87 - 48.12
<a href="#">CISCO SYS INC</a>	1.49	31.0	N/A	18.75 - 48.12
<a href="#">MICROSOFT CORP</a>	2.35	38.0	N/A	46.87 - 89.50
<a href="#">SUN MICROSYSTEMS</a>	3.60	13.0	N/A	18.25 - 50.50

Tuesday, May 30



# Quote.com's Email Alerting

QuoteCom Staff,5:05 PM -0700,QuoteCom Portfolio Report

BLAH  
BLAH  
05 00

Subject: QuoteCom Portfolio Report

Date: Tue, 30 May 1995 17:05:39 -0700  
From: QuoteCom Staff <staff@quote.com>  
To: quote\_com@wais.com  
Subject: QuoteCom Portfolio Report

Tuesday May 30

Symbol	Quantity	Close	Change	Value	Change
AMER	0.000	34.7500	-1.0000	0	0
CSCO	0.000	43.7500	-2.1250	0	0
MSFT	0.000	83.0000	-4.5000	0	0
SUNW	0.000	44.1250	-3.0000	0	0
Totals				0	0

MarketScope, BusinessWire, PR Newswire, S&P News items for your portfolio today:

B #236463 CSCO TCG Selects Cisco LightStream 2020 As Exclusive Enterprise ATM  
B #238432 MSFT Wang and Microsoft close worldwide strategic alliance; Microso  
B #237631 SUNW ADVISORY/Today's competitive market place requires new business  
P #237591 SUNW HADCO CORPORATION ANNOUNCES RECEIPT OF MULTI-MILLION DOLLAR BAC  
B #236579 SUNW SunService Expands and Enhances Sun Asset Survey Reporting Serv  
B #236573 SUNW SunService unveils support services for Solaris migration; desi

News stories can be retrieved by sending:

# Custom Newsletters: Journalist by PointCast

The screenshot displays the Journalist software interface, titled "Journalist - [Paper1]". The menu bar includes File, Edit, Create, Download, View, Window, Options, and Help. The toolbar contains various icons for file operations and viewing options, including a "One Full Page" button.

The interface is divided into two main panes. The left pane, titled "Table of Contents", lists the following categories and sub-items:

- World News**
  - World News
    - AP World news
- Media, Publishing**
  - News
    - News By Ticker
  - Stock Table
    - stock table
- Soft Drinks**
- Telephone Systems**
  - News
    - News By Ticker
  - Stock Table
    - stock table

The right pane, titled "Page View", shows the layout of the newsletter. It features a header section with a graphic and the title "Media, Publishing". Below this is a section titled "News" with the text "[News By Ticker -- Not Downloaded Yet]". Further down is a section titled "Stock Table" containing a table with the following data:

Company	High	Low	Last	Change	Volume	Date
CRRC	no data	no data	no data	no data	no data	no data
ALQT	no data	no data	no data	no data	no data	no data
BIGE	no data	no data	no data	no data	no data	no data
AMPC	no data	no data	no data	no data	no data	no data
AMBJ	no data	no data	no data	no data	no data	no data
CDIM	no data	no data	no data	no data	no data	no data

The status bar at the bottom indicates "For Help, press F1", "Page 2 of 6", and "Offline".



# **Agent Progress**

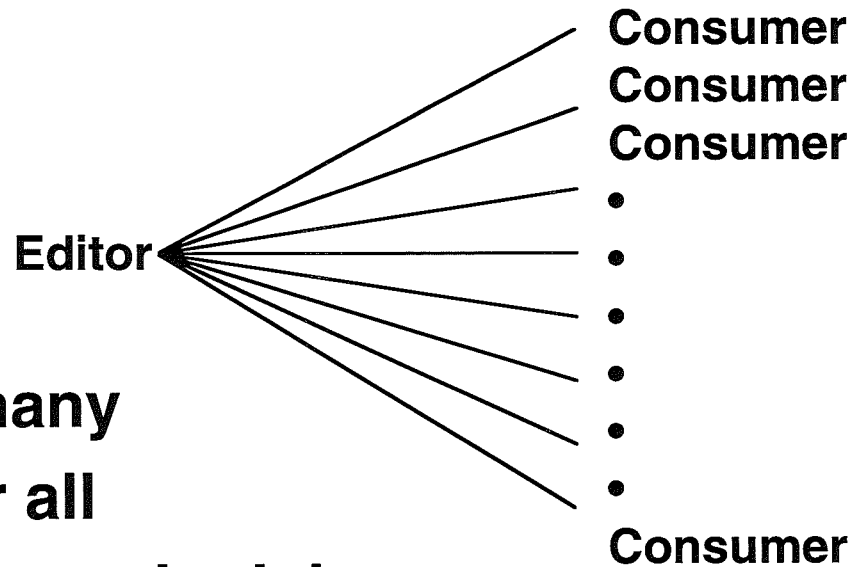
- **Quote.com: Financial Services**
- **NewsHound: Email Alerting**
- **Individual Inc: FAX and Email, Human editors**
- **PointCast: Bringing Customized Layout**
- **WAIS Inc: Ascii Email, Personal Digital Newspapers**



# **Future Directions in Agents**

- **Refinement of “mission”: Everyone is an Editor**
  - **Music Selection: Ringo by MIT**
  - **Video Selection: BellCorp**
- **Aggregation from Multiple sources**
  - **Centralization (eg. Dialog, Individual, InfoSeek)**
  - **Robot Gatherers: Webcrawler, Yahoo**
  - **Search Protocols (Z39.50, PLS, OpenText)**
- **Adaptive Refinement of Mission: not yet.**

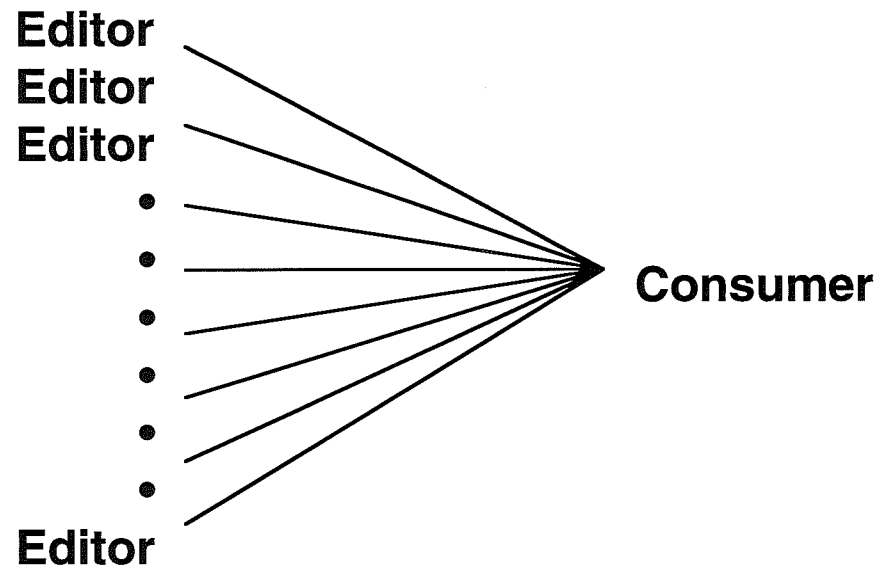
# Publishing of Old: Push



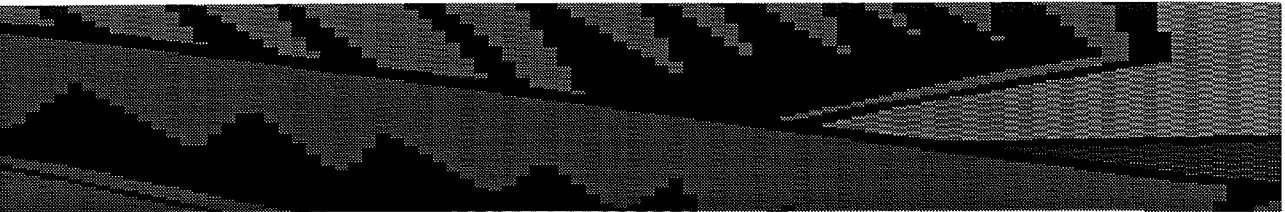
- One to many
- Same for all
- Editors set schedules



# Agent Publishing: Consumer Pull



- Integrated access to multiple sources
- Personal preferences drives the flow
- Easy Delivery



## Contact Information

- [info@wais.com](mailto:info@wais.com), <http://www.wais.com>
- [Brewster@wais.com](mailto:Brewster@wais.com)
- 415-356-5400

